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October 25, 1996

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

VIA MESSENGER

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
Room 222  
1919 M Street, N.W.  
Washington, D.C. 20554

Re: Ex Parte Submission, PR Docket 92-235

Dear Mr. Caton:

On behalf of Securicor Radiocom Limited ("Securicor"), this letter is submitted as an ex parte submission on the reconsideration issues pending in PR Docket 92-235. Securicor has petitioned the Commission for reconsideration of the 7.5 kHz/6.25 kHz channel spacings for refarming of the VHF (150-174 MHz) and UHF (450-470 MHz) Private Land Mobile Radio bands adopted in the Report and Order, FCC 95-255 (June 23, 1995). Securicor's 5 kHz Linear Modulation ("LM") system, which was demonstrated in connection with the Commission's March, 1996 spectrum *en banc* hearing, has been deployed commercially in the 220-222 MHz band.

In its Petition For Reconsideration, Securicor requested, in particular, that the FCC adopt 5 kHz spacings for the VHF and UHF bands, noting that the 7.5 kHz/6.25 kHz channel spacings adopted in the Report and Order would result in lost spectrum efficiencies quantified by Hatfield & Associates at up to \$6.4 Billion in lost treasury revenues, 26,500 manufacturing jobs (person-years), 8,800 service jobs and would decrease the potential subscribers accommodated by the PLMR Bands by 3.6 million users.

Securicor recognizes that a key goal of the refarming docket is that the band plans adopted by the Commission promote the availability of many service options and be "technology neutral" so that the marketplace and the users may select the equipment solutions that best suit their needs. Securicor interprets the goal of technology neutrality to mean that all manufacturers should have access to the spectrum on equal terms to ensure that those who offer the best cost, capacity and service solutions would be able to fully realize the competitive advantages of their innovations. This, indeed, is critical to ensuring that manufacturers continue to have the

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incentive to invest in research and development to develop even more spectrally-efficient technologies. Securicor expressed its belief in these principles in its Petition For Reconsideration by urging that the FCC's Rules establish a level playing field for all manufacturers.

As Securicor noted in its Petition (at 14, excerpt attached), however, the band plans adopted by the Report and Order do not achieve technology neutrality. In particular, as shown in Figure 3 to Securicor's Petition (copy attached), the 7.5 kHz/6.25 kHz band plans adopted by the Commission will reduce the potential channel capacity of those bands. Because of the channel spacings that exceed 5 kHz there are "gaps" of 2.5 kHz for the VHF band and 1.25 kHz for the UHF band that are not available for use by 5 kHz narrowband equipment. These spectrum gaps, however, are available for use by wideband technologies under channel aggregation.

Accordingly, although Securicor continues to believe that adoption of 5 kHz band plans for both the VHF and UHF band plans instead of those provided in the Report and Order will best serve the public interest, it urges, at a minimum, adoption of 5 kHz band plans in addition to those provided in the Report and Order. This will promote the goal of technology neutrality and help avoid the lost efficiencies quantified by Hatfield & Associates. The FCC, indeed, recently has adopted such overlapping band plans for operations in the Low Power Radio Service in the 216-217 MHz band, stating there the objective of accommodating a "variety of channel bandwidths and technologies." Amendment of the Commission's Rules Concerning Low Power Radio and Automated Maritime Telecommunications System Operation in the 216-217 MHz Band, FCC 96-315 (August 2, 1996) at paras. 32-36. As shown in Figures 4, 5 and 8 to Securicor's Petition (copies attached), these 5 kHz band plans can be adopted in a manner that will enable existing users of the bands to remain "on-channel" in a migration to narrowband technology.

Securicor believes that the coordination mechanisms that are under development by the frequency coordinators and TIA will function to ensure an orderly band environment with the overlapping channel plans. To this end, Securicor supports the request of the Land Mobile Communications Council and others that the FCC grant its frequency coordinators flexibility in managing band interference. See Petition For Reconsideration of Land Mobile Communications Council, PR Docket 92-235, August 18, 1995 at 5-7; Petition For Reconsideration of American Automobile Association, PR Docket 92-235, August 18, 1995 at 3; Petition For Reconsideration of Utilities Telecommunications Council, PR Docket 92-235, August 18, 1995 at 6-8. Securicor believes that this flexibility should include the ability to relocate channel centers where appropriate to maximize the efficiency of usage of the bands. Securicor, indeed, believes that the introduction of advanced narrowband technologies, like its LM system, will help limit interference in the PLMR bands and will improve the capabilities of those bands. In this

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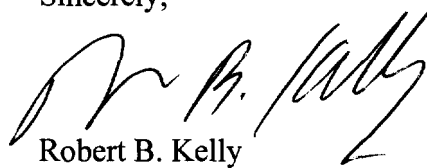
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respect, attached hereto is a chart depicting a comparison of the co-channel protection ratios of LM to FM, FM to LM and LM to LM interference.

Should there be any questions concerning this ex parte submission, please communicate with this office.

Sincerely,

A handwritten signature in black ink, appearing to read "R. B. Kelly", with a stylized flourish at the end.

Robert B. Kelly  
Counsel to  
Securicor Radiocom Ltd.

Attachments

**B. Technology Neutrality Must Not Override the Requirements of the Communications Act**

The "technological-neutrality" employed dispositively in favor of the 7.5 kHz and 6.25 kHz channel spacings can not override the fundamental goal set by the Communications Act of promoting spectrum efficiency. Securicor, of course, agrees that the refarming Rules should establish a level playing field for all parties competing in the equipment markets. But, on that level playing field, those technologies that excel should be allowed to emerge and be chosen by the marketplace. To this extent, the FCC's technological neutrality effects a leveling of 5 kHz technologies with 6.25 kHz technologies and thus in their effect are inconsistent with the FCC's obligation to promote spectrum efficiency.

**C. The R&O Is Not Technology-Neutral**

Even assuming that technological neutrality is otherwise consistent with the Communications Act, the band plans adopted by the R&O are not in fact technology neutral. As noted above, those band plans deprive the most spectrally-efficient technologies now available of their most critical competitive advantage, i.e., their spectrum efficiency. The R&O band plans therefore will inhibit the competitiveness of these technologies relative to less efficient technologies and can not be viewed as neutral.<sup>17</sup> Further, the ten year spectrum efficiency

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<sup>17</sup>The FCC's rejection of a 2.5 kHz channelization plan was premised in part on the basis that because of "anticipated future trends ...we see no substantial benefit to such a channelization

standard established by the FCC will inhibit the ability of 5 kHz technologies to compete fairly in the refarmed PLMR bands indefinitely.

Of particular note, to the best knowledge of Securicor, no party who commented or otherwise participated in this proceeding stated any intention to deploy true 6.25 kHz narrowband equipment in the refarmed PLMR bands. The record is empty of any such references, and the R&O itself references no particular 6.25 kHz NB technology. Securicor is aware, of course, that several parties have indicated an intention to deploy 6.25 kHz wideband equivalent technologies in the refarmed PLMR bands. But, these wideband equivalent technologies are accommodated in the same manner by a 5 kHz band plan, i.e., through aggregation of channels, as by a 6.25 kHz band plan. Accordingly, the R&O's band plans appear to fit technology that is not even planned to be deployed in the PLMR bands at the expense of more spectrally-efficient equipment that is already deployed in the 220 MHz band.

**D. The R&O's Findings Regarding a 5 kHz Band Plan Are Flawed and Erroneous**

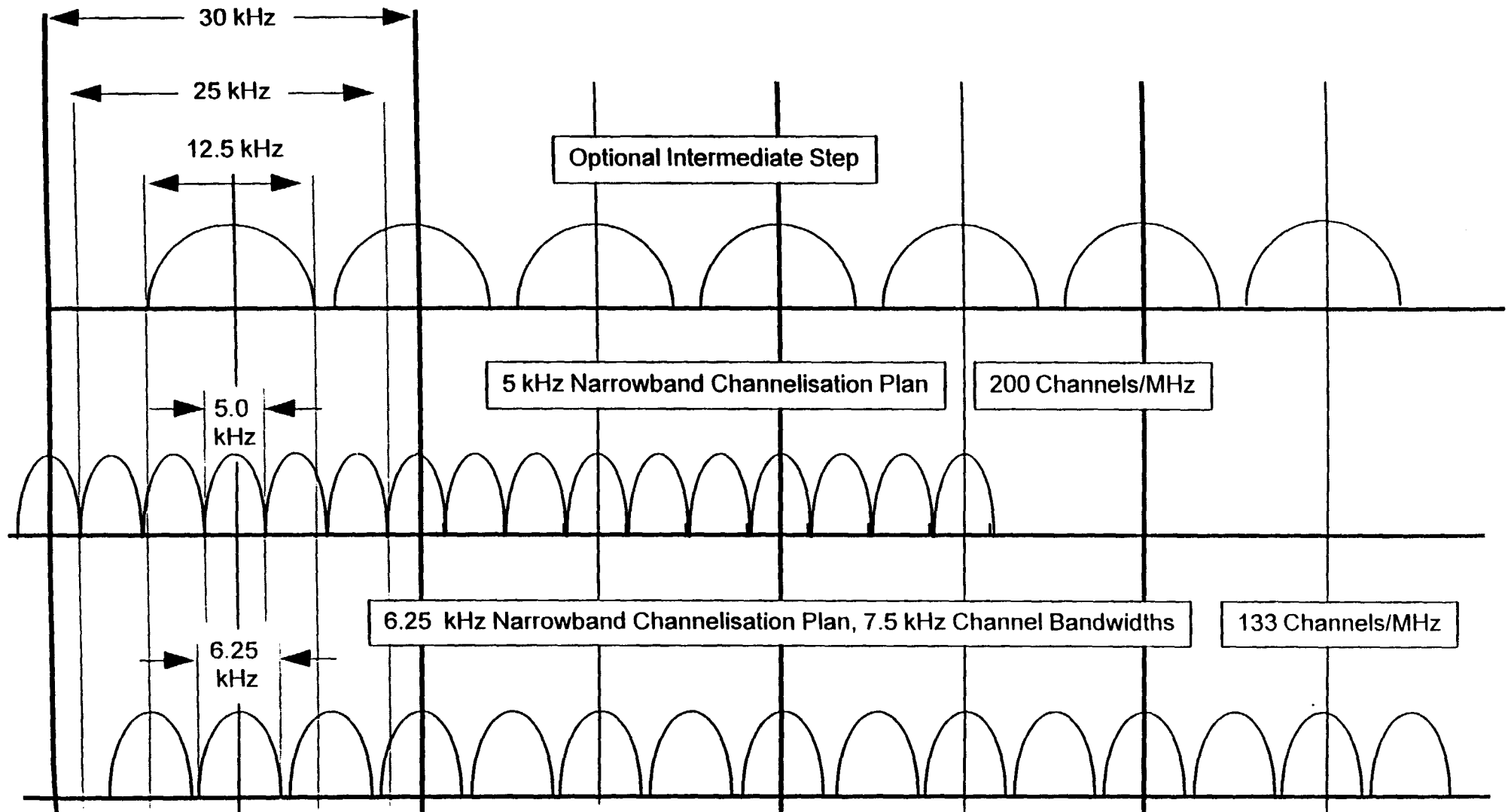
In rejecting a 5 kHz channelization plan, the FCC stated that a 5 kHz plan "would exclude traditional FM technologies and would be substantially narrower than channels

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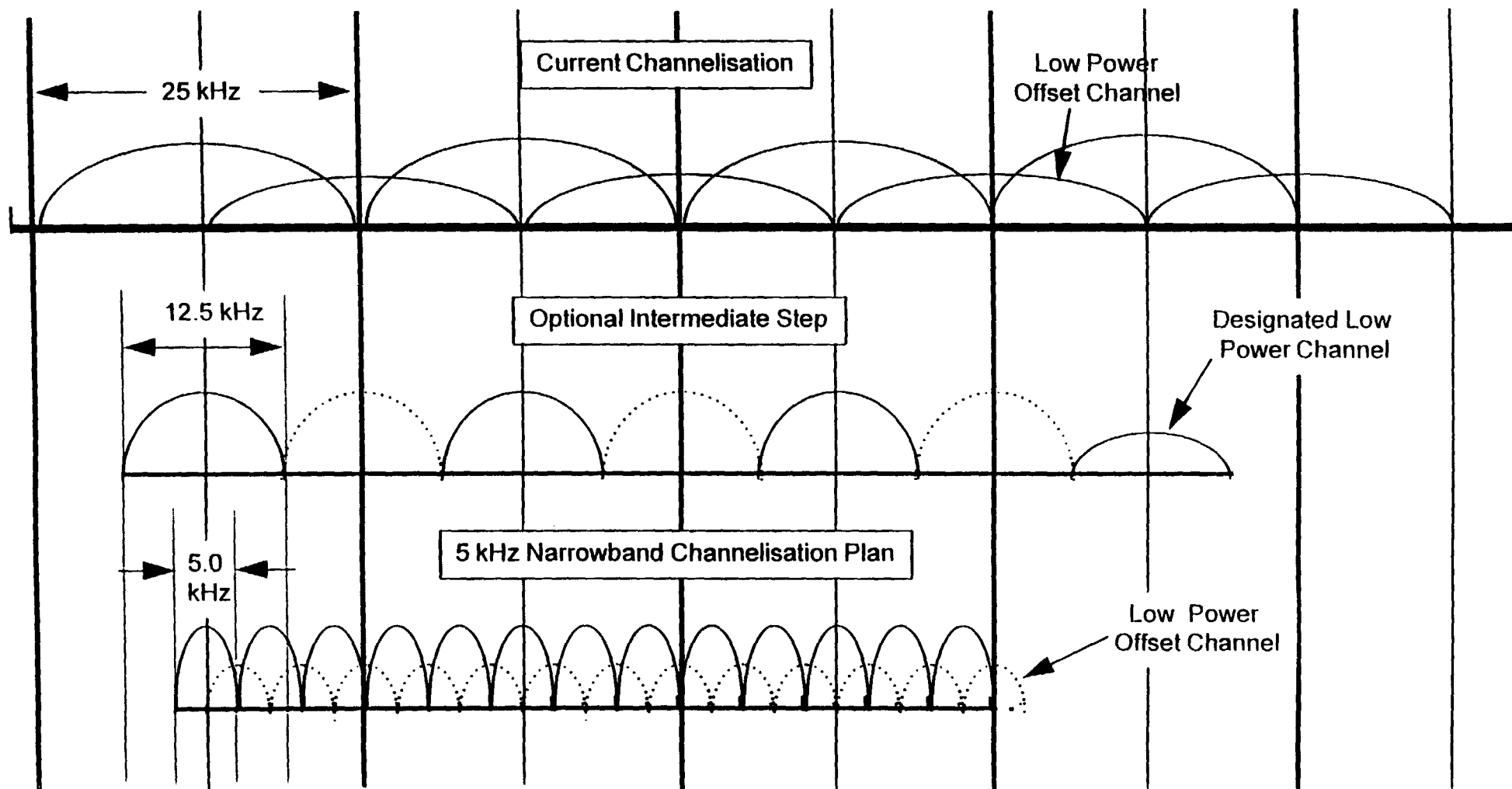
scheme." R&O at para. 25. The Commission did not further identify what these anticipated future trends were, but clearly appeared to imply by its statement that its decision was not in fact technology neutral.

# 5 kHz VHF Migration

## 5 kHz and 6.25 kHz Final Plan Comparison

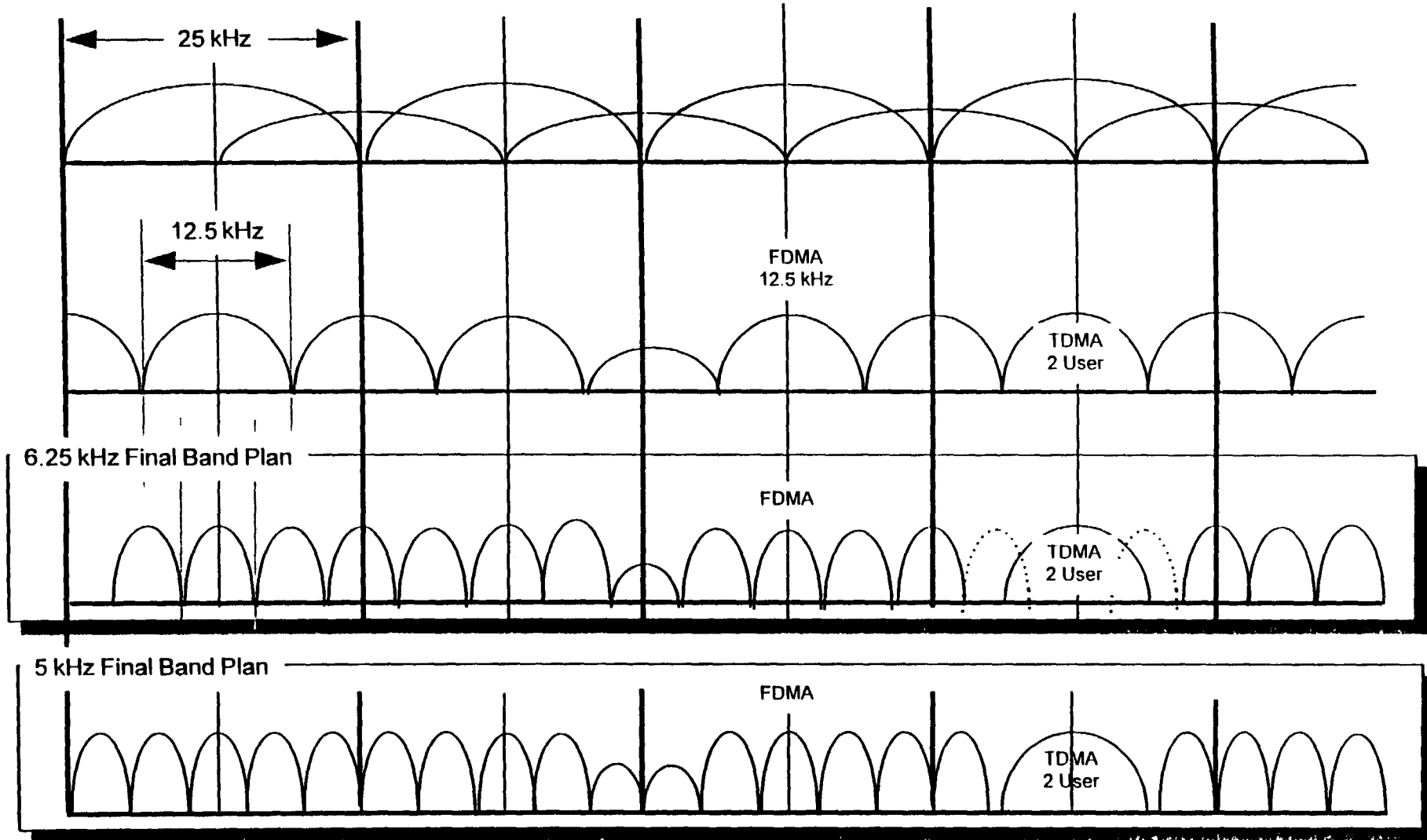


# 5 kHz UHF Migration (Channel Centering)



# UHF Channel Migration Options

6.25 kHz (Channel Centering) Versus 5 kHz (Channel Centering)



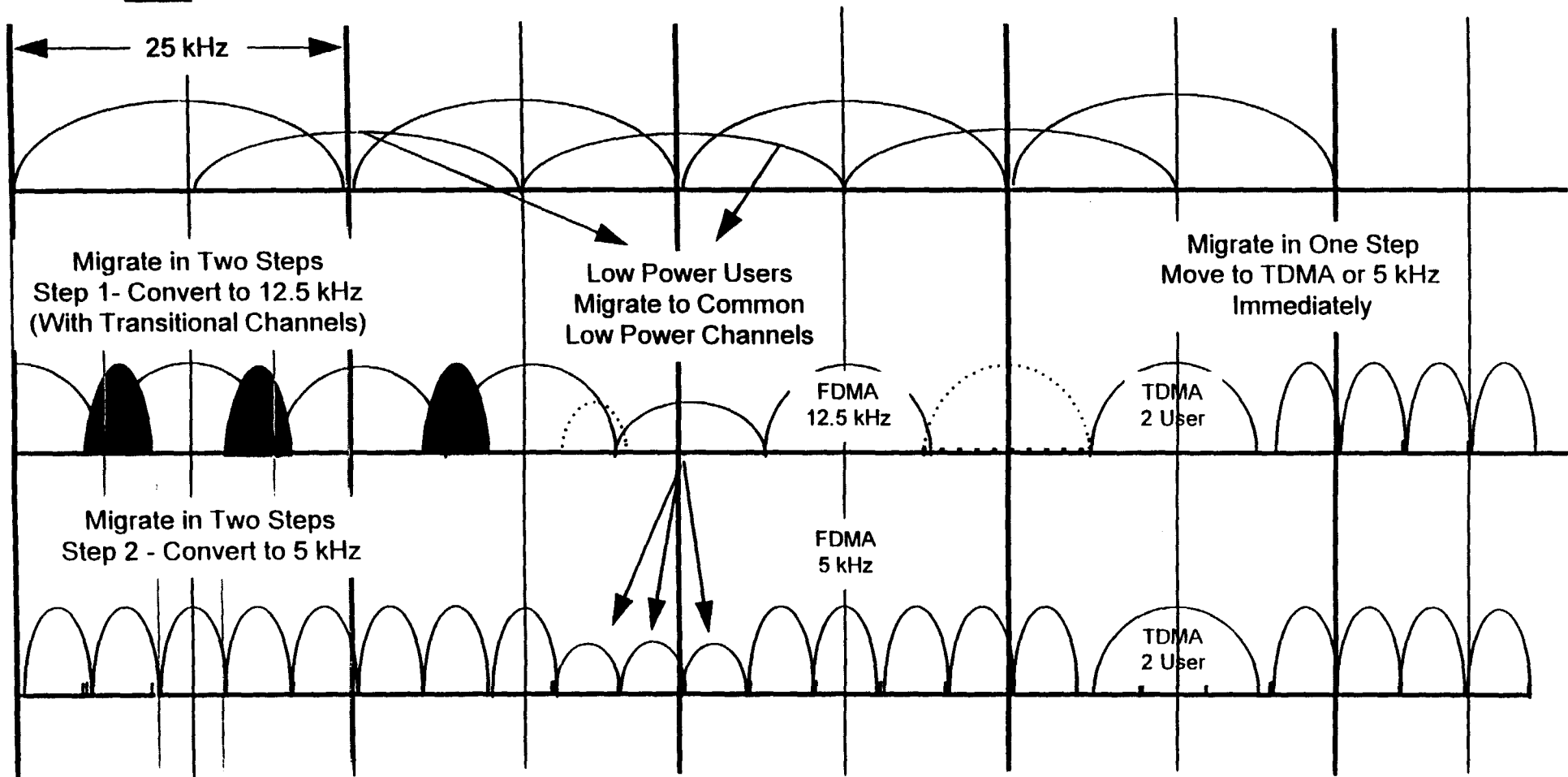


# 5 kHz Channel Migration Options

## UHF-1(Channel Centering)



Transitional Channels Marked Thus Provide  
in excess of 30dB Co-Channel Protection, LM/FM



# Linear Modulation Co-Channel Protection

